

201124

JPRS-TTP-84-015

4 June 1984

# Worldwide Report

TELECOMMUNICATIONS POLICY,  
RESEARCH AND DEVELOPMENT

DTIC QUALITY INSPECTED 3

**DISTRIBUTION STATEMENT A**  
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Distribution Unlimited

19980826 132

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Current JPRS publications are announced in Government Reports Announcements issued semi-monthly by the National Technical Information Service, and are listed in the Monthly Catalog of U.S. Government Publications issued by the Superintendent of Documents, U.S. Government Printing Office, Washington, D.C. 20402.

Correspondence pertaining to matters other than procurement may be addressed to Joint Publications Research Service, 1000 North Glebe Road, Arlington, Virginia 22201.

4 June 1984

# WORLDWIDE REPORT

## TELECOMMUNICATIONS POLICY, RESEARCH AND DEVELOPMENT

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COMPLETES TESTING, TO BE LAUNCHED MID-JULY in chart on p 45  
the blurred letters of the last two blocks on right should  
read: SEP                      ERNO  
      -Apogee Engine        -Propulsion

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## AUSTRALIA

### BRIEFS

NEW SATELLITE EARTH STATION--A new satellite earth station linked to the Intelsat Pacific Ocean satellite is about to come into operation in Healesville, northeast of Melbourne. The federal minister for communications, Mr Duffy, and the premier of Victoria, Mr Cain, said the station was one of a series of developments that significantly improve and expand Melbourne's communications. The Healesville station will make it possible to secure international circuits around the clock for voice and data transmission. In a joint statement, Mr Duffy and Mr Cain said the developments underway will also ensure that Melbourne remained a strong competitor in the establishment of a major financial center in Australia. [Text] [BK130334 Melbourne Overseas Service in English 0430 GMT 10 May 84 BK]

CSO: 5500/4383

SATELLITE WORKERS GREETED

OW111125 Beijing XINHUA Domestic Service in Chinese 1138 GMT 7 May 84

[CPPCC National Committee 7 May congratulatory message to "all comrades who took part in development and testing of China's experimental communications satellite"]

[Text] Beijing, 7 May (XINHUA)--To all comrades who took part in the development and testing of China's experimental communications satellite:

China's experimental communications satellite was successfully launched and positioned at 125 degrees east longitude above the earth's equator on 16 April. The communications' experiments and radio and television transmissions have been going well. The CPPCC National Committee hereby extends its warm greeting to all scientists, technicians, workers, cadres, and PLA commanders and fighters who took part in, and made splendid contributions to, the development and testing of the satellite, and it pays its high respects to the heroes who won honor for the motherland.

The successful launch of the communications satellite marks a new breakthrough in China's space technology. It demonstrates that China has established an engineering system for developing, launching, tracking, measuring, controlling, and testing a synchronous fixed earth satellite. It is a major achievement in China's socialist modernization, and a major victory for the policy of maintaining independence and self-reliance. It is the result of our serious implementation of the line of the 3d Plenary Session of the 11th CPC Central Committee, and the principles of the 12th CPC congress. It is a magnificent, inspiring song composed by the Chinese people.

Heroes on the space front, your spirit and courage in scaling the heights of science will certainly have far-reaching effects on the people of all nationalities throughout the country, and will encourage and inspire them to work hard for the realization of the grand goal of the four modernizations. We shall further unite all democratic parties, mass organizations and people of all circles to work with one heart and one mind, under the leadership of the CPC, striving to make greater contributions to achieving the magnificent goal of quadrupling our industrial and agricultural output by the end of this century, building a highly developed socialist material and spiritual civilization, and fulfilling the three major tasks of the 1980's and 1990's.

CSO: 5500/4198



HU QIAOMU INSPECTS SATELLITE GROUND STATION

OW111403 Beijing Domestic Service in Mandarin 1200 GMT 10 May 84

[Text] Comrade Hu Qiaomu, member of the Political Bureau and member of the Secretariat of the CPC Central Committee, inspected the satellite communications ground station, located in the Beijing suburbs, on the afternoon of 9 May. The station is the central station for experiments in satellite communications. All electronic technology equipment used for the experiments is developed and produced in China. This equipment has operated normally and functioned well.

Comrade Hu Qiaomu inspected the microwave equipment room and the television monitor hall. He listened to broadcasts relayed by the satellite through 15 channels, and watched televised color pictures sent from the ground to the satellite, and received from the satellite.

Comrade Hu Qiaomu also went to the terminal room of multicircuit digital telephones, where he excitedly picked up a telephone to converse with Comrade An Pingsheng, first secretary of the Yunnan Provincial CPC Committee, through the satellite circuit. Comrade Hu Qiaomu said: Congratulations to you army-men and people at the front, for having won still more victories. I wish you still greater successes in your work everywhere in the province.

Before leaving the station, Comrade Hu Qiaomu wrote an inscription which read: You are to be thanked for the tremendous contributions you have made for the sake of the motherland and the people. I hope you will redouble your efforts to press onward to the higher peaks of space undertakings.

CSO: 5500/4198

SATELLITE LAUNCH SITE, CONTROL CENTER DESCRIBED

HK110736 Guangzhou YANGCHENG WANBAO in Chinese, Hong Kong, Macao, Overseas  
Edition 29 Apr 84 p 6

[Report by ZHONGGUO XJNWN SHE reporter Dei Yaping: "First Visit to Miraculous Astronautics City"]

[Text] A Flight to the Astronautics City

After a long journey by plane, train and bus, we arrived in the astronautics city. The astronautics city is a newly built, complete and perfect, multipurpose modern satellite launching center. A special railway and highway connect it to the outside world, and various kinds of communications equipment form a communications network by means of wireless broadcasts, microwaves and optical fibers. Sitting by the huge television screen in the Beijing headquarters, the launch site several thousand kilometers away can also be seen. Here, it has its own systems for supplying water, power and other logistics equipment, and it has its own meteorological station which provides the most accurate meteorological information at any time, and selects the best time for the launching of satellites. The specialists working here put on work clothes in various colors and styles, and they wear a great variety of badges and arm-bands. It is learned that the different colors and styles of their work clothes signify different work sites.

Standing By the Very Place Where the Rocket Shoots Into the Sky

The launching pad that stands like a skyscraper is a symbol of the astronautics city. Before the rocket was filled with fuel, we took an elevator to the top platform of the launching pad. Against the breeze, standing at the very place where the rocket was to lift off, we felt a little like fairies in the sky.

On every level of the launching pad, there were specialist working, making final tests on the satellite and the rockets. Pipes, electric cables, valves, and instruments of various descriptions were spread everywhere. Some electric cables were connected to the rocket. The rocket looked very much like a sword; it was all white. On its upper end were four blue painted bands and some red painted squares linked together. When ordered, the rocket would take off from the earth, and shoot into the sky.

Below the launching pad there is a diversion though 40 meters deep. It has an outer wall made of reinforced cement. Flames emitting when the rockets are launched will flow out from here to the outside of the launching site.

The guide told a reporter that this launching pad is so far the tallest and has the most advanced equipment in the country.

#### An "Underground Palace" at the Launching Site

Coming down from the launching pad, the reporter came to the underground control room of the launching site, coded "302." It was the final control in conducting the launching of the satellite. The final checkup--the vertical test--before the departure of the carrier rocket and the satellite was performed right here, using instruments and computers.

It is very much like an "underground palace." Walking around here in this "underground palace" makes people forget temporarily that there are rock layers several meters thick above their heads. In order to enter the working area, people will have to take off their shoes, walk through a passage covered with white carpet, then put on a pair of slippers before finally arriving in the control room. Here the temperature is appropriate, warm as spring year round. Though "302" and the launching pad are close neighbors, the flames and deafening roars which occur during the rocket take off have not the least effect on the "underground palace."

Passing by one test room or workshop after another, there is a bright and spacious room toward the end of the hallway, and there on the glass door were three big red characters--"launch control room." Here is the very heart of "302." Right in the middle of the room is the launch control panel. On two sides of a row of television screens are several score of matchbox-size screens indicating information in Han characters. The site specialists told a reporter: Electronic technology is widely applied here at the launching site. The testing, checkup and launching are all controlled by computer. Pointing at the green numerical figures on the launch control panel, he said: "This is called the countdown timer. When it counts down to zero, the computer will automatically connect to the ignition circuit.

Coming out of "302," walking 3 kilometers along a first-rate highway 8 meters wide, groups of milky white buildings come into sight. Here is the satellite "hospital"--the testing center of the astronautics city.

The testing center consists of the conveying workshop, the testing workshop, the comprehensive testing workshop, the satellite testing workshop, and so on, which are used chiefly to fulfill the tasks of conveying and testing rockets and satellites. In the central hall of the testing workshop, all four walls are inlaid with snowy white acoustic boards, with soft light spread all over the hall. In the upper part of the hall is an overhead crane spanning more than 20 meters from north to south; on the ground, three wide-track railways stretch over 90 meters from east to west. At the time when a reporter was visiting the hall, two rockets were lying there. At the two sides of the hall

were scores of testing rooms, where specialists in white work clothes were using instruments to carry out "physical" checkups on the rockets.

On the left side of the testing hall was the satellite testing room where the experimental communications satellite laid bare its "insides" for testing by the specialists. The satellite was adorned with gold communications antennae and sparkling silicon battery chips, looking like a massive artistic gem.

#### Inhabitants of the Astronautics City

The astronautics city is worthy of a brand new city. Its inhabitants come from all parts of the country; some arrived here when the city first broke ground for construction, others arrived here just a few months ago. On the eve of the launching of the communications satellite, China's rocket, electronic, computer, and communications specialists gathered here. To insure a smooth launch, the designers and manufacturers of the rockets and various parts of the satellite also made a special trip to watch the communications satellite take off.

During his visit, a reporter was invited as a special representative to attend a discussion conference of specialists of the highest rank on the launch plan. The conference agenda was to determine the angle of launch of the satellite, according to the meteorological situation in the near future, and other conditions. At the conference, all feasible plans were put under meticulous demonstration and study, and the best plan was finally chosen.

Here work is tense, but the people's life is rich and colorful. In the city, there is a television station transmitting television programs from Beijing. In their spare time, some people fish in the pond, while others will take a stroll, enjoying the moonlight.

#### The Command Control Center

In the command hall, a huge television screen 5.3 meters wide and 4 meters high attracted the attention of a reporter. Along the sides were a set of eight huge indicating screens. The screens constantly displayed conditions of the ground work, and every possible position of the rocket in flight, while all the chief control person needs to do is to sit by the panel in front of the screens and "devise strategies in a command house that will assure victory 1,000 li away." While talking, a colored map of China appeared on the huge screen, on which were marked two red curves. A specialist said that a simulation of the launching procedure was underway; the upper curve was its theoretical orbit.

Outside the command hall are large and small computer rooms; it can really be called a "world of electronic computers." Two central computers are installed in the large mechanics room, fitting out with over 100 sets of external equipment. After the take off of the carrier rocket, these computers will receive information from the launching site and all tracking stations, which will be processed rapidly, and the data will be transmitted to various tracking stations and the headquarters in Beijing. Rows of sparkling indicating lights

and wave after wave of pulsing signals are accompanied by an incessant buzzing from the mechanics room. One feels as if one were enjoying a film in stereo.

The astronautics city is a city of wonder. Now the people can see the unification of science and art, and the future of China's space technology.

CSO: 5500/4198

PEOPLE'S REPUBLIC OF CHINA

SATELLITE ENTERS 'STEADY EXPERIMENT' STAGE

HK110952 Beijing ZHONGGUO XINWEN SHE in Chinese 0723 GMT 11 May 84

[Report: "China's Experimental Communications Satellite Enters Stage of Steady Experiment" -- ZHONGGUO XINWEN SHE headline]

[Text] Beijing, 11 May (ZHONGGUO XINWEN SHE) -- This reporter has learned from the departments concerned that after orbiting for a month, the experimental communications satellite launched by China on 8 April has by now entered a stage of steady experiment.

At present, this experimental communications satellite transmits the first program the central TV station broadcasts each day from 1830 to about 2300, when the program ends. Areas with ground stations capable of receiving signals from satellites, including Xinjiang and Yunnan, relay television programmes transmitted by this experimental communications satellite every day. This communications satellite was launched on 8 April. On 16 April, after the satellite adjusted its position in the sky above the point where the equator intersects 125 degrees east, longitude, experiments on communications by television, radio, telegram, and telephone were successively conducted.

It is said that this satellite is now transmitting the programs produced by the Central People's Broadcasting Station every day in addition to relaying telegram and telephone communications.

CSO: 5500/4198

BRAZIL

BANK USES SATELLITE TO LINK UP BRANCHES

PY040110 Sao Paulo Radio Bandeirantes Network in Portuguese 1000 GMT 3 May 84

[Special report by (Vera Lucia), for the "Primera Hora" program--no date given]

[Text] BRADESCO [Brazilian Discount Bank] is already using the Brazilian domestic satellite to link up its branches.

[Begin (Rossi) recording] During a press conference granted yesterday afternoon in the city of [name indistinct] BRADESCO's board of directors here in Sao Paulo reported on the official opening today, Thursday, of the link of the BRADESCO branch in Boa Vista, Roraima territory, with the BRADESCO real time system through the use of the stationary INTELSAT IV satellite of EMBRATEL [Brazilian Telecommunications Company] as a transmitting medium.

This is the first time in Brazil that a satellite has been used for the real time linkage of a bank's branch. The next link will be established with the [BRADESCO] branch in Rio Branco, Acre State, in June. BRADESCO's board of directors regards this linkage via satellite as very important because of the experience gathered for using the domestic satellite once it becomes available. With this linkage the [BRADESCO] branch customers in Boa Vista, Roraima territory, will be able to profit from the advantages rendered by the banking information now supplied in the world's largest financial markets. BRADESCO now has 225 branches linked to the real time system. [end recording]

CSO: 5500/2040

EXPERTS STUDY FUTURE GOVERNMENT-CABLE, WIRELESS PROJECTS

Road Town THE ISLAND SUN in English 31 Mar 84 p 1

[Text]

A multi-disciplinary team of experts arrived in the Territory early this month to examine an approach to telecommunications and advise Government in the developmental process of the British Virgin Islands.

The team was comprised of Ms. Hamsi (Financial Adviser), Mr. Kennedy (Telecommunications Adviser) and Mr. Menary (Attorney at Law), and had the following term of reference:

To examine the existing Agreements between Government and Cable and Wireless, (W.I.) Ltd. and to make recommendations for making them more adaptable to current day needs;

To draft up a new Telecommunications Act including both technical and administrative provisions for all the services, both radio and telephone;

To advise on the remedies for the inadequate telephone and radio services;

To advise on whether Cable and Wireless is justified in its contention that local phone and Tortola Radio Services are not profitable and the overseas rates charged are reasonable.

The team was in the Territory until March 17th and held discussions with Government officials, local Cable and Wireless officials and two Cable and Wireless officials who arrived from London during the week of March 11th. The discussions held were in light of the expiration of the existing agreement for internal telephone services in 1992 and the expiration of the external services agreement in 1987, it was further pointed out by the Chief Minister's Office.



CHILE

BRIEFS

ENTEL EXPANSION, DEVELOPMENT--The National Telecommunications Enterprise [ENTEL] will invest 1.2 billion pesos during the current year in expansion and in development of new technology which will allow the company to meet operational and administrative requirements. Expansion of the northern and southern communications networks will be completed in 1985. Projected development, which includes adaptation and assembly of systems to direct the nation's international traffic, will take about 10 years. On the international level, ENTEL will adapt its transmission and teleselection systems and the basic technical plans that govern their development. This will require coordination with telephone companies. For this purpose, the enterprise has obtained credits of \$9 million from the Midland Bank, \$6 million from the Bank of Tokyo, and \$2.4 million from Svenska Handelsbank for the purchase of equipment from the International Calls Center. According to company sources, prospects for this year are good, with hopes of producing profits. [Text] [Santiago LA NACION in Spanish 21 Apr 84 p 9]

CSO: 5500/2041

## BRIEFS

GANDHI ON REMOTE SENSING--India has expressed concern over the rising cost of obtaining remote sensing data for developing countries. These are made available by the UN Conference on Exploration of Peaceful Uses of Outer Space and countries like the United States. The prime minister informed the Rajya Sabha today that in view of the increasing cost India has decided to have its own source for acquiring remote sensing data. At present it gets all relevant information from the United States at an exorbitant fee. The house was also told that following the decision to set up a chain of space technology cells in different research institutions of the country, the second cell is being established at Indian Institution of Technology [IIT], Bombay. The first space technology cell was opened this year at the Indian Institute of Science, Bangalore. Such centers are also planned at Jadavpur University, Calcutta, and IIT, Madras. Their job is to carry out advanced research directly relevant to the current Indian space program. [Text] [BK030995 Delhi Domestic Service in English 0830 GMT 3 May 84]

COSMONAUT DISCUSSES FLIGHT--The first Indian cosmonaut, Squadron Leader Rakesh Sharma, and other heroes of the Indo-Soviet joint space flight arrived in New Delhi today to a rousing reception. As already stated, Squadron Leader Rakesh Sharma and his Soviet colleagues--Colonel Y. Malyshev and, Mr Gennadiy Strekalov--are to get the Ashok Chakra [highest india metal]. This was officially announced at a news conference in New Delhi today. It was addressed by the Soyuz team along with General V. Shatalov, adviser to Soviet chief of air staff on space matters. They will be honored by the president, Giani Zail Singh, at a special investiture ceremony in New Delhi next week. Answering questions, Rakesh Sharma said results of the experiments conducted during the space mission will be available in about 6 months. He clarified that his space flight was not a joy ride, as criticized by some. He vehemently denied reports in the Western media that the Soviets withheld some information from him about the Soyuz spacecraft. Replying to question, General Shatalov pointed out that it may be possible to set up an international cosmomauts' club to promote peaceful uses of outer space. [Excerpts] [BK051801 Delhi Domestic Service in English 1530 GMT 5 May 84]

SOVIET LAUNCH OF SATELLITE PLANNED--Work on the Indian remote-sensing satellite, IRS-1, scheduled for launching from the Soviet cosmodrome in April 1986, is proceeding as per schedule. The director of the Satellite Research Center at the Indian Space Research Organization [ISRO], Dr U.R. Rao, told our

Bangalore correspondent that the structural and engineering model would be ready by July this year. He said this will be a major step in the overall program of space application of the country. Referring to the data collected from the just-concluded Indo-Soviet manned space flight, Dr Rao said that studies by ISRO are expected to start shortly. He said the highest priority will be given to experiments related to geological and forest resources. The Indian space program is poised for self-sufficiency in space technology during 1985- 90 with the proposed financial outlay of 1,551.17 crore rupees in the seventh plan. The major objectives of the approved 1980-90 space profile would be to achieve self-reliance in spacecraft and launch vehicles. [Text] [BK061032 Delhi Domestic Service in English 0830 GMT 6 May 84]

NEW CALCUTTA EXCHANGE--Calcutta--A 10,000-line cross-bar telephone exchange which will have the code "29," will be commissioned in the city tomorrow. Its equipment has been imported from Japan. The exchange will progressively take over 2,000 lines of the 43 and 44 exchanges, 1,000 lines of the 23 exchange, and 4,000 lines of the 21 and 24 exchanges. The change of numbers is being intimated to subscribers. During 1984-85, more connections will be provided in the 43, 44, 29, 21, 24 and 23 exchanges. The new exchange will function from the same building as the 21 and 24 exchanges. [Text] [Calcutta THE TELEGRAPH in English 31 Mar 84 p 1]

STD FOR CHINSURAH--Chinsurah, April 10--Subscribers Trunk Dialling from Chinsurah was started today by Mr J. Basu, General Manger, Calcutta Telephones, who made the first telephone call to Mr S.V. Krishnan, Chief Secretary to the West Bengal government in Calcutta. With this, Chinsurah became connected with Calcutta and other cities in India by direct dialling microwave link. For the present, the link has been established one way from Chinsurah to other places and STD services from Calcutta to Chinsurah are likely to be completed by the end of this month. Speaking on the occasion, Mr Basu said that a 5,000-line electronic local exchange would shortly be installed in Salt Lake, Calcutta. This would provide relief to the existing exchanges in the area, he added. [Text] [Calcutta THE STATESMAN in English 11 Apr 84 p 3]

URDU NEWS SERVICE--New Delhi, April 10--The Hindi news agency, Hindustan Samachar yesterday announced its decision to launch an Urdu service from May 1. The agency's General Manager, Mr U.S. Gandhi, said it had also been decided to institute a Feroze Gandhi Memorial Award for journalists. Two journalists working with different language newspapers would be given a cash award of Rs 25,000 each every year. An advisory board had been appointed for the agency. The board had removed from service all the 1,029 stringers in different parts of the country.--PTI and UNI [Text] [Madras THE HINDU in English 11 Apr 84 p 11]

TV NETWORK BEING EXPANDED--The TV network is being expanded in the country by setting up 144 high speed and lower power transmitters to relay TV programs through INSAT-1B for nearly 70 percent of the population. Stating this in the upper house of Parliament today during question hour, the information and broadcasting minister, Mr H.K.L. Bhagat, told the house that INSAT-1B is proposed to be utilized for expansion of TV services in the northeastern region, extending coverage to about 80 percent of the population of the area. The scheme is under implementation, he added. [Text] [Delhi General Overseas Service in English 1330 GMT 30 Apr 84 BK]

CSO: 5500/4723

## IRAN

### SHORTWAVE RADIO STATION INAUGURATED IN KAMALABAD

Tehran KEYHAN in Persian 30 Apr p 3

[Article: "In Ceremonies Attended by National Officials, President Opens Kamalabad Mission Short Wave Radio Station"]

[Text] The eyes of the people of the world are open, and they understand everything. It is important for us to send what we want to send via this channel to their hearts.

On the eve of the anniversary of the mission of the great prophet of Islam, initial operations began for the Kamalabad Mission Short Wave Radio Station, in ceremonies attended by President Hojjat ol-Eslam Seyyed 'Ali Khameneh'i.

In opening these ceremonies, in which a number of the country's officials participated, Mohammad Hashemi, managing director of the Voice and Visage of the Islamic Republic of Iran, gave a talk in which he reported on this organization's activities in the propaganda war against the Islamic Republic of Iran, which is much more extensive than the armed war. He added: Even now, the role of the media takes precedence over everything else in the world. Especially in Moslem nations, it is through this very short wave system that most parts of the world deliver their messages. Then one of this organization's engineers reported on the characteristics of the Mission Short Wave Radio Station's transmitter. Then Hojjat ol-Eslam Khameneh'i gave a talk thanking all the devoted employees, officials, and laborers of the Voice and Visage. He said: Thank God you have brought the self-sufficiency slogan to realization in such an important center. Any country with a message must have a means of propagating it. Through the kindness of God and the blessings of our revolution, we not only have one of the most powerful messages in the world, we have one of the most vital and deeply-rooted messages in history, and it is the nation's return to the human personality and its independence. This message of our revolution is very agreeable to the nation.

Continuing his remarks, the President said: Nations are suffering under the domineering powers of the world, because everything that ought to be used for the service, well-being, and growth of nations is being used to their detriment because of intervention by the great powers.

Hojjat ol-Eslam Khameneh'i said: For some countries, such as Iraq, propaganda is used merely for the sake of survival. Iraq's policies are not real, its economy is an economy with no hope of standing for even a short time without help from its supporters; its combative resources and military power are not such that they might think they could compensate for the rest of their weaknesses by relying on it. Iraq has nothing.

At the conclusion of his remarks, the President said: What people have confidence today in the lying propaganda of the superpowers of East and West, and their lying and deceitful mouthpiece organizations. The eyes of the people of the world are open, and they understand everything. It is important for us to send what we want to send via this channel to their hearts. In our own view it is a valuable message.

The President then opened the Mission transmitter in the name of God and inspected its various components. Then the 16 engineers, technicians, and technical workers who had roles in the planning, installation, and starting of this transmitter received gifts from Hojjat ol-Eslam Khameneh'i.

9310

CSO: 5500/4724

## IRAN

### OFFSHORE ISLANDS TO RECEIVE COMMUNICATION FACILITIES

Tehran KEYHAN in Persian 26 Apr 84 p 21

[Article: "With the Opening of the Abu Musa Island Cable Network, All the Country's Islands Will Have Cable Coverage"]

[Text] With the opening of the Abu Musa Island cable network, which was put into operation with a telephone connection to Engineer Musavi, Prime Minister, and in view of the fact that Greater Tombs Island will also soon be connected to the complete network, all of our country's southern islands will have cable communications.

Engineer Mohammad Va'ez, managing director of the Iranian Cable Company, said concerning this: It is our hope that with future plans which are now being carried out, we will be able to satisfy God, the Imam, the nation, and the officials.

He said: According to the long-range plan, we will increase the cable capacity of these islands in accordance with the needs of the people and organizations stationed on the islands. The principal work for installing high-capacity equipment is continuing, and, God willing, this will also be completed within a year or two.

At the present time, Qashm, Kish, Hormoz, Khark, Lavan, Lark, and Abu Musa islands are included in the cable network.

The managing director of the Iranian cable company said concerning the need of the country's ports for domestic and foreign cable communications: We have been making plans concerning this for about nine months.

He said: In view of an inspection we have made of Bandar Shahid Beheshti (formerly Bandar 'Abbas), and a study of the issues and needs of this port, we are now implementing a new short-term plan. A long-range plan has also been prepared, and cable equipment required by this plan has also been ordered.

With regard to Bandar Shahid Raja'i (Bandar Chah Bahar), resources which we have previously collected are now being transferred to this island, and a microwave plan for the Chah Bahar line has also been completed. As this port is expanded, equipment for this plan will gradually be installed. The necessary resources will also be given to the rest of the ports, in cooperation with the Shipping Organization and other concerned organizations.

Concerning cable coverage for the country's deprived border areas, Engineer Va'ezzi said: Concerning this, the Iranian cable company has two plans. One is a plan to provide cable coverage for rural border areas. After the necessary inspections and studies, our colleagues will carry out the plan.

The other plan is to provide coverage for the rest of the country's border areas. With regard to these plans, regular meetings have been held with officials of the army, the revolutionary guard, the Ministry of the Interior, and other knowledgeable organizations in the border areas. The necessary cooperation at strategic points has been established and priorities have been stipulated. We hope that God will bless us with the successful completion of all plans being carried out now and scheduled for the future.

9310

CSO: 5500/4724



ISSUES DISCUSSED AT SATA CONFERENCE DETAILED

Blantyre THIS IS MALAWI in English No 4, Apr 84 pp 9-10

[Article by George Tukhuwa]

[Text]

**The seven-nation Southern Africa Telecommunications Administrations (SATA) conference held in Malawi recently did produce good paper pledges, which, if translated into productive action, should change telecommunications services in the sub-region.**

Delegates from Botswana, Lesotho, Mozambique, Swaziland, Zambia, Zimbabwe and Malawi attended the Blantyre-convened fourth SATA conference (February 14-21) at Kwacha International Conference Centre.

At issue was the organisation's fundamental goal: the development and co-ordination of telecommunication services within its member states.

Other issues included the latest telephone and telex traffic projections for various routes in the sub-region, financial matters relating to the cost of services to customers on inter-country

traffic and training.

Co-ordination in the field of manpower training and a review of the progress made in the implementation of telecommunications development plans were also highlighted during their discussions.

SATA feels there is an existing imbalance of traffic between Third World countries and developed nations.

It was a general consensus of the delegates that countries in the area should develop all means of telecommunications stretching into the rural areas.

Country-to-country services must also be improved so that member states are able to communicate with each other with a minimum of delay.

To accomplish this, conference participants agreed to embark on projects involving new earth stations for satellite communications, high capacity microwave links and international switching exchanges.

An encouraging achievement is Lesotho's and Swaziland's installation of earth stations in fulfilment of SATA objectives.

Microwave links between Lilongwe in Malawi, Chipata in Zambia and Francistown in Botswana; and then from Bulawayo to Livingstone in Zambia were in their final stages of completion, delegates were told.

"Completion of these links also opens new routes from Southern Africa into East Africa through the Panafel microwave network," according to a communique issued at the end of the conference.

Mozambique is also actively improving her communication services between the ports of Maputo, Beira and Nacala where construction of satellite earth stations is in progress.

Most SATA countries depend on these ports for most of their imports and exports.

Malawi, in particular, by virtue of her land-locked nature, uses the ports of Beira and Nacala. The Nacala port is mostly used for her containerised items.

Participants noted with sadness that the development of telecommunications in the area was inhibited by financial constraints.

It was decided that cheap rates proposed during their discussions could stimulate traffic and revenue depending on relationship between specific destinations.

The Southern Africa Transport and Communications Commission (SATCC), an arm of the Southern Africa Development Co-ordination Conference (SADCC) was mobilising the necessary funds for the development of communications for SATA, SATCC representative at the conference told delegates.

And even though SATCC

allocated to Swaziland the responsibility to co-ordinate manpower training in the SATA region, the ports and communications administration in that country had not yet been involved in the task, SATA's representative said.

However, three seminars were envisaged to be held during the year. One would deal with financial management, another on earth station technology and the last on new services affecting countries with low circuit requirements.

The completion of a microwave link between Malawi and Zimbabwe in the middle of this year, and that between Mozambique with Swaziland, Malawi, Zambia and Zimbabwe in the near future is viewed as a milestone in SATA's objectives of developing telecommunications in the sub-region.

As a group, SATA agreed to approach major countries like the United Kingdom, Italy and other credit agencies for more equitable accounting rates●

BENIN

BRIEFS

SATELLITE EARTH STATION PACT--The third and last part of the agreement on the Cotonou satellite telecommunication earth station was signed this morning at the Ministry of Foreign Affairs and Cooperation. Leon Blaise Ahouandogoo, deputy permanent undersecretary of the ministry; and Antoine (Teon), director of the French cooperation mission, signed the documents. The agreement, which is to the tune of 150 million CFA francs, rounds off the Aid and Cooperation Fund [FAC] participation in the construction of the earth and telecommunications station for which the FAC has granted a total amount of 600 million CFA francs. The FAC has already contributed twice, in 1982 and in 1983 respectively, toward the implementation of the project. The first amounted to 300 million CFA francs and the second 150 million. [Text] [AB182235 Cotonou Domestic Service in French 1930 GMT 18 Apr 84]

CSO: 5500/72

## NAMIBIA

### BRIEFS

WIDER RADIO COVERAGE--Windhoek--About 85 percent of the people in South West Africa will be able to receive FM transmissions by the end of this year, the chairman of the Swabc, Mr Piet Venter, said in Windhoek yesterday. The corporation, which celebrated its fifth independent anniversary yesterday, broadcasts a total of 131 hours a day in 12 languages on seven channels. After the present expansion programme is completed, television will be available to cover 50 percent of the people.--Sapa. [Text] [Johannesburg THE CITIZEN in English 2 May 84 p 3]

CSO: 5500/70

NORDIC COUNTRIES AGREE ON PROPOSALS FOR TELE-X COOPERATION

Stockholm SVENSKA DAGBLADET in Swedish 2 Apr 84 p 8

[Text] Nordic TV cooperation can occur to begin with via three channels on the Tele-X satellite.

This proposal was made by the Nordic Council of Ministers' leadership group for program issues, with Sam Nilsson of Swedish TV as chairman.

Tele-X will be sent up in 1987 via the Ariane carrier rocket from French Guyana. When it is maneuvered into place, the experimental phase can begin. By 1988 Tele-X will be ready for use. The satellite's lifetime in orbit is estimated at around 7 years.

Finland, Norway and Sweden have one TV channel each at their disposal. Iceland will have an opportunity to send its programs on the Norwegian channel. Denmark is not part of the Tele-X project.

As a rule programs will be sent to neighboring countries at the same time they are distributed to the ground network of their own countries. Programs will consist of the best selection from a country's own productions.

New productions especially designed for satellite transmission alone can occur as an exception along with the transmission of foreign programs.

Translations of programs into and from Finnish and Icelandic will be required, but not from and into Norwegian and Swedish, assuming that programs are supplied with subheads in the original language.

The laws of the transmitting country will apply as far as possible. In addition to three TV channels there is also room on the satellite for six radio channels. The working group did not make direct recommendations as to how they should be used, but expressed itself in favor of a special Nordic music channel.

## Two Channels

One possibility is having only two television channels on the Tele-X satellite. In that case it was recommended that a joint Nordic TV program be transmitted with contributions from the participating countries.

This should be a representative selection among the best in each country. One channel could be more public in nature while the other could emphasize cultural objectives.

A two-channel system would reduce the room for radio transmissions from six to four channels.

No detailed cost estimates have been made. But operating costs for a three-channel system would not be less than 200 million kronor a year and the cost for a two-channel system would not be less than 150 million kronor a year, the working group estimated.

The costs will be so great that they cannot be covered by the present license fees. Either the fees must be raised or special funds will have to be appropriated.

There is limited room for increasing license fees, in the opinion of the group, even though a joint Nordic increase in the license fee has been proposed.

Alternative possibilities can be tried, such as advertising, pay-TV, antenna fees or fees for cable hookups or a combination of different measures.

A report on a possible fourth channel on a permanent satellite is expected to be ready by 1 August.

6578

CSO: 5500/2655

UK, FRG, FRANCE TELECOM VENTURE FOR '21ST CENTURY' TECHNOLOGY

Stockholm DAGENS NYHETER in Swedish 19 Apr 84 p 9

[Article by Bjorn Anders Olson: "Ericsson Gets Tele Competition: Europe Takes Up the Fight"]

[Text] The large European tele-companies are now taking up the fight against Swedish Ericsson. Urged on by the authorities, several companies are trying to gather around the "switching system of the 21st century."

According to the British newspaper, The Sunday Times, contacts have been made, at government level, between the British and the West Germans, among others. Furthermore, the three British companies GEC, Plessey and British Telecom have had contacts at top level with their French counterparts.

The Sunday Times concludes that this is happening in order to meet the competition from American AT&T and IMB. It is mainly a question of preventing the United States from developing a system standard to which the others will be forced to conform.

At Ericsson in Stockholm it is seen more as an effort to squeeze Ericsson out of various international markets. Ericsson's AXE-switching system has been very successful and has been sold in a large number of countries.

The British System X, the French E10 and the West German EWS-D are great in their respective home courts.

Abroad their successes have been more limited.

Most Successful

West Germany's Siemens has been most successful and, in Swedish opinion, has the best of the three systems.

The French E10 is found almost exclusively in French-speaking countries.

In Swedish opinion, the British have the weakest system and they also have not been very successful internationally.

In order to meet the competition from the Swedes, the Americans and soon also the Japanese, the three large West European countries are, therefore, trying to pool their resources so that they can produce a future system for telecommunication and a future switching system.

This has become all the more necessary, since American AT&T has initiated cooperation with both Italian Olivetti as well as Dutch Phillips.

Not Worried

A combined, technologically advanced system would be the West European reply. According to The Sunday Times, one of the greatest supporters of such cooperation is said to be the French President, Francois Mitterrand.

At this point, at least, they are not especially worried at Ericsson, however.

"Our sales results abroad speak for themselves," is one comment.

Furthermore, Ericsson's AXE-switching systems are "modular," which means that parts can be changed or added to as the development progresses.

Today the switching systems are totally digital. They did not start out that way.

In Great Britain, France and West Germany, they would like to see a common super switching system as a worthy successor to the airbus, which was also developed in order to meet American competition, among other things.

12339

CSO: 5500/2671



DENMARK

GOVERNMENT AGENCY WANTS MONOPOLY ON SATELLITE TV

Copenhagen BERLINGSKE TIDENDE in Danish 21 Apr 84 p 3

[Article by Dan Axel: "P & T to Have Monopoly on Satellite TV Programs"]

[Text] Private satellite associations will not be permitted to intercept programs from communication satellites, even though this would be a less expensive method for the consumers than if P & T [Post and Telegraph] intercepts the programs and broadcasts them over a national hybrid network.

This is apparent from a response given by Culture Minister Mimi Stilling [Center Democrats] to the culture committee of the Folketing. The minister states that the P & T for technical reasons has a requirement that there be good geographical distance between a ground receiving station and the radio link to be used. Otherwise signals from the satellite will be interfered with.

The matter has been raised by the Cooperative Antenna Association of North Jutland, which propose that the culture minister alter his law proposal to a Danish TV 2, so that antenna associations be permitted to intercept satellite TV when the possibility exists. P & T points out that Denmark has joined international agreements which mean that the frequencies in question can be used for both satellite traffic and radio chains. This requires a spreading of ground station, in the opinion of P & T, and these stations must therefore be limited to a very few, especially selected places.

Finally, only a national hybrid network can assure that TV programs of neighboring countries can be brought into Danish living rooms. This cannot be done by means of a special parabolic antenna directed toward the satellites.

11,256  
CS0: 5500/2662

ELECTRIC COMPANY ENTERS U.S. TELEPHONE EXCHANGE MARKET

Paris ELECTRONIQUE ACTUALITES in French 2 Mar 84 p 10

[Article by D. Levy]

[Text] International alliances, and his group's prospects in telecommunications were the focus of the speech that Mr Pebereau, director general of CGE, delivered to the Association of Economic and Financial Newspapermen (AJEF) on 28 February in Paris. In particular, Mr Pebereau stressed that the European market should not be pitted against the American market, but rather that actions should be carried out simultaneously in these two areas. "In Europe," he stated, "the historical opportunity associated with the opening of public markets in telecommunications must be seized. At the same time, the United States, the major world market, must not be overlooked. We want to sell exchanges to the former ATT companies and to independent companies, with the objective of becoming the fourth largest in the United States in 1987."

Nationalized for the past two years, CGE "is no longer a financial conglomerate, but a concentrated and homogeneous industrial group." International competition has indeed led the group to reorganize its forces and strengthen two major areas: energy and transportation on one hand, and telecommunications and business communications on the other. The concentration is measured by the fact that the share of these two areas in CGE's total activity has changed from two-thirds in 1982, to nine-tenths in 1984. It is associated with a new dimension assigned to the group's internationalization.

At this time in 1984, CGE must digest the restructuring which it has started. In this respect, Mr Pebereau pointed out the satisfactory progress of the agreement with Thomson: since 1 January, CGE is managing Thomson-Telecommunications, and joint research and development as well as exportation companies have been formed. This implementation, coordinated between CIT-Alcatel and Thomson-Telecommunications in less than six months, and which involves 50 operational units and a personnel of 35,000 on CIT-Alcatel's side and 22,000 on the part of Thomson-Telecommunications, is proceeding according to the original schedule.

"High technology is the means of action at the same time as the field of intervention of CGE," explained Mr Pebereau. This advanced position should become even stronger thanks to a rapidly growing research and development effort: +30 percent in three years in real terms, while the share of corresponding expenses as part of revenues should go from 4.5 percent in 1983 to about 6 percent in 1984, taking into account Thomson-Telecommunications. Moreover, the high technology option is reflected in a modernization investment effort that has increased by 25 percent in three years in real terms.

Having become sufficiently large to face world competition, CGE now lends a new dimension to its internationalization. This strategy leans on three major orientations: actions undertaken in third world countries, a special effort underway to develop positions in Europe and the United States, and a new approach to Japan.

In industrialized countries, CGE devotes its attention to "a massive and immediate reinforcement of the actions undertaken in the United States to benefit from the opportunities offered by ATT's deregulation, in parallel with the European alliance policy which is actively being pursued in the expectation of a progressive opening of public telephone markets."

In the United States, CGE can take advantage of Thomson's earlier agreements (delivery of telecopiers to 3M and of videotex terminals to GTE). But these are limited, specific actions. Mr Pebereau is hoping for an entirely different dimension, and is getting ready to solidly entrench the group in three major telecommunication sectors: public telephone exchanges, which it wants to "sell to ATT's former subsidiaries and to independent companies, with the ambition of reaching fourth place among exchange suppliers in the United States" (in the wake of ATT, GTE, ITT, and Northern Telecom); transmission, in which a first order has been obtained from ATT for a 140 Mbit/s digital link; and private telephones, in which participation with an American distributor is planned for bottom of the line equipment, and in which an agreement for the sale of the Opus 4000, started by Thomson, is being finalized.

In Europe, along with DGT's (General Directorate for Telecommunications) discussions with British Telecom, CGE has offered its systems to the British agency (see our previous issue). "In case of a positive decision for a symmetrical opening of the French and English markets, we will have to reach an agreement with Plessey and CGE for local manufacturing, and subsequent alliances in Europe and the United States." CGE has also started discussions in Italy with Italtel, in Spain, and in Belgium.

11,023  
CSO: 5500/2660

MINITEL TERMINAL ENTERS U.S., OTHER FOREIGN MARKETS

Paris ELECTRONIQUE ACTUALITES in French 2 Mar 84 p 10

[Article by Ph. Marel]

[Text] Intelmatique and GFI have just signed two contracts with Honeywell, for 2500 Minitel terminals, and for Telesources and Comutex software for videotex, respectively.

According to the terms of the contracts, Telic-Alcatel will at first--this order being renewable starting this year--supply 2500 Minitels which the American manufacturer intends to incorporate in a professional videotex system built around a Mini 6.

At the same time, the agreement signed by GFI involves the provision of Telesource software for videotex monitor management, in association with a multikey search software, and of Comutex for electronic messages.

The target of the American group is the internal need of medium and large American enterprises for videotex services. These contracts are straight line descendants of the promotion campaign launched since 1980 on foreign markets, by Intelmatique, a subsidiary of France Cables et Radio.

We should mention in this respect, that Intelmatique's action with Honeywell is an exception, insofar as since 1982, promotion and sales of French telematics in the United States was entrusted to Videographic Systems, which gathers various partners under the umbrella of Thomson and DGT (General Directorate for Telecommunications).

This agreement is in no way being questioned; but because Honeywell has been commercially followed by Intelmatique since the start, the officials have deemed it logical to maintain it as its one and only customer.

Commenting on these contracts, Mr Bright, director general of Intelmatique, and Mr Nahon, director of marketing, pointed out the part they played in the successes gained abroad by the company since the beginning of its action. French videotex is thus operational in New Zealand, as well as in Brasil and Kuwait.

These comments were made during a press conference organized last week, during which the participants took the opportunity of comparing the dissemination of videotex in France with that in foreign countries.

Some 100,000 terminals were thus being used in France for electronic telephone directories at the end of 1983, and the rate of installations is of the order of 15,000 per month until the end of this year.

#### One Million Terminals in France by the End of 1984

To these "consumer goods" terminals, we must add the 25,000 professional ones at the end of 1983, with an installation rate of 2500 per month until the end of this year. All in all, 1 million terminals will be installed in France by the end of 1984, and 3 million in 1986. By way of comparison, Europe had only 60,000 interactive videotex terminals by the end of 1983, and should have 100,000 by the end of this year, which is ten times less than France. Moreover, no more than 150,000 such terminals could be counted outside Europe at the end of 1983, a figure which should reach 250,000 by the end of this year, or four times less than France.

11,023

CSO: 5500/2660

TELEPHONE INDUSTRY'S UNEMPLOYMENT PROBLEMS EXAMINED

Paris ELECTRONIQUE ACTUALITES in French 9 Mar 84 p 10

[Article by D. Levy]

[Text] The telephone industry side by side with such distressed sectors as steel, coal, or shipyards, in the industrial restructuring plan launched by the government: that can prompt a smile, or irritate. The prestigious image of French telephones, whose advanced technology was touted on all the world's markets, could be tarnished by finding itself in such company.

Who can deny that the telephone industry has an overemployment estimated at about 5000 people (out of a total of 54,000)? But before placing telephones among the distressed sectors it might be appropriate to first consider the new PTT programs likely to boost--more or less strongly--the failing domestic demand (cable networks, radiotelephone, telematics, Telecom-1, and so on), to encourage diversification within the enterprises involved, and to reinforce the exportation effort.

Nonetheless, the problem must be treated realistically; and it is in this respect that the telephone industry should be able to benefit from part of the billion francs allocated to the industrial restructuring program.

The causes of overemployment in the telephone industry are well identified: they are related to the formidable productivity increases created by technologic changes, as well as to a drop in PTT orders. To measure the impact of the first effect, three particularly eloquent figures will substitute for a long dissertation about the transition from electromechanical switching to space-switching and then to time-switching: the production of a telephone line required 8.4 hours for crossbar, 2.9 hours for space-switching, and only 1.4 hours for time-switching, namely, a five-fold reduction. This transition resulted in the elimination of 15,000 switching jobs during the past five years.

PTT orders to the telephone industry have dropped steadily since 1977 (despite the helping hand of 1981). In current francs, the orders placed by the government between 1977 and 1982 show an average growth rate of 2.7 percent, which means a significant reduction in volume, such that the public sector share, which several years ago represented two-thirds of the profession's revenues, now amounts to no more than 50 percent.

## CGCT Plan

In other words, the industrial restructuring of the telephone industry--that is, its modernization by conversion to digital technology, its diversification, and its internationalization--has already been strongly underway since 1977. The industry's conversion to modern technology--which is still not complete--added to PTT's order reduction, caused the elimination of 18,423 jobs between 1977 and 1982. It would be even worse, had PTT and our manufacturers not limited the damages by searching for new exportation markets (industry orders have gone from 1 billion francs in 1977, to 4.1 billion in 1982), by diversifying company activities (notably in business communications), and by launching new products associated with telematics applications (results in this sector are not yet meeting expectations).

Where are we today? The general situation of the telephone industry was profoundly changed by two events: the nationalization of CGCT and the Thomson-CGE merger. Adapting itself to the new industrial conditions, CGCT has undertaken an extensive diversification program designed to save a maximum number of jobs as part of a balanced financial situation in 1985-1986. This plan, which depends on an investment of 350 million francs over the 1983-1986 period, and on a training effort for nearly 40 percent of the personnel, stipulates a shift in the company's focus from public exchanges (from 67 percent of the personnel in 1962 to 37 percent in 1986) to business exchanges (45 percent of the personnel in 1986 compared to 25 percent in 1982), and an expansion of its consumer activities (18 percent in 1986 against 8 percent in 1982).

After an agreement to reduce the work week to 35 hours, CGCT believes that it has enough orders in 1984 for its production units. However, an excess of about 1000 jobs in the administrative and technical services at the Paris and Fontenay-aux-Roses locations, and of about 100 jobs in a mechanical shop inherited from the Massy Crossbar production, is a burden on the company's financial situation. We might note that the establishment of a PTT-management-unions three-party commission has made it possible to tactfully solve the employment problems that have arisen at CGCT until now.

## CGE-Thomson Synergy

The CGE-Thomson merger should devote particular attention to employment. Actually, while Thomson's president forecast--before the Production Commission of the National Assembly--the elimination of 5000 jobs in his group and of 2000 others at CGE, the new deal has led the officials of the two groups to bring the total excess jobs in switching to 2500 people by the end of 1986-1987. Conversion to time-switching is practically completed at CIT-Alcatel, but not yet at Thomson.

Another concern is LTT, which foresees the loss of 600 jobs, one-half of them in cables. Some questions still remain open in this activity: will Cables de Lyon take over the entire LTT sector? In any case, the Conflans plant has decided to stop the production of copper cables, which will move to Lannion.

Cable networks--the agreement has still not been signed between LTT and PTT--will only very partially compensate the drop in transmission and cable activities: first because the orders received are nowhere near expectations (the project covers 160,000 connections by March 1985), and then because while the new program requires a great deal of engineering, its repercussions on production jobs will be small. Moreover, the production of optical fiber cables needs large investments but little personnel.

Another company which will encounter overemployment problems this year, although to a lesser degree, is Matra, whose plant modernization will be carried out (notably at TPL). About 200 people are involved, but Matra believes it can solve the problem by early retirements and reclassifications into other activities of the group.

Lastly, SAT will also work on solving by itself the problems that might arise here or there. In the recent past, the company has already been able to absorb the drop in PTT transmission orders by expanding its activities toward remote information processing.

11,023

CSO: 5500/2261



FRANCE

CABLE TV NETWORK PROGRAM SEEN AS 'IRREVERSIBLE'

Paris ELECTRONIQUE ACTUALITES in French 30 Mar 84 pp 1, 10

[Article by D. Levy]

[Text] Telecable 84, the second National Convention of Cabled Cities, held at Evry, near Paris, from 21 to 24 March, had the major merit of ending the incertitude that has weighed on the program of cable videocommunication networks.

At the opening of the event, Mr Mexandeau, minister of PTT, and Mr Fillioud, state secretary for communication technologies, confirmed "the government's irreversible decisions," which are the selection of a star-shaped distribution technology using optical fibers. Mr Mexandeau disclosed that following the agreement to place orders for 160,000 connections, signed with Velec-CGCT in December, he was soon going to sign an agreement for the same volume of orders with LTT.

"The total of these two agreements represents a financial commitment of 1.35 billion francs," he pointed out, adding that "before 1986 we will in principle, be in a position to at least double the volume of orders, at which time DGT's (General Directorate for Telecommunications) cost for these networks will be brought down to a level comparable to that of conventional coaxial networks, which are usable only for teledistribution." The PTT minister made an analogy with the electromechanical and time switching technologies of telephone exchanges, and specified that "today, the difference (between optical networks and coaxial cables) is far from being the same as the one that existed when the choice was made, about ten years ago, between the electromechanical and time switching technologies. The ratio was much higher than two to one."

However, Mr Mexandeau indicated that the fundamental selection of optical fiber networks did not mean that the coaxial cable was "banned," if only because our cable industry has to taken into consideration. Nevertheless, the orientation toward optical fibers must be taken to mean "the largest possible share and the most rapidly possible into optical fibers."

Other principles mentioned by the PTT minister as part of his policy for cable network equipment are that the role of exclusive technical operator belongs to PTT ("I will not allow private operators to skim the market with imported equipment in any area or with any equipment"); that allowing the development of "a sterile competition" between cable distributors and telecommunications is out of the question; and that a single tariff for teledistribution is retained, because "by assuring equity for time, space, and services, it will guarantee users, at the best price, the overall balance of public service telecommunications."

#### Connection Cost

During a Telecable 84 workshop devoted to the cable program, Mr Gerin, assigned to videocommunications at DGT, justified the technical options of the French program, which will avoid "the implementation of two low current networks by the year 2000." At present, he pointed out, 133 communities representing 12 million inhabitants have indicated their interest in a cabled network. Of this total, about 40 technical studies were started in the past year, covering 7 million potential subscribers. For connection costs, Mr Gerin quoted a figure of 1000 dollars per subscriber (for a penetration rate of 50 percent) paid in the United States for a conventional coaxial network, compared to the 8,500-12,000 francs per subscriber for an optical fiber connection in France. "We are on the right track," concluded Mr Gerin.

Mr Dupuis, deputy director for cabled networks at TDF (Television de France) mentioned the role of the public establishment, which is responsible for network centers. He described the support that TDF could provide to local collectivities by conducting feasibility studies and by relying on products developed for this purpose (mobile stations, 12 GHz beams, and so on).

On behalf of manufacturers, Messrs Forest, Le Menestrel, and Etienne, respectively director general of Velec, secretary general of SAT (but also vice president of Coditec), and director general of LTT, stressed the advantages of French technical options. Mr Forest insisted on the interactivity which makes it possible to offer custom programs. Velec's network solution uses other possibilities allowed by interactivity ("backfeed" programs from subscribers to local centers and programming stations for redistribution, send images from one subscriber to another through the nearest distribution center, and especially, send remote service commands from local centers to determine whether failures are due to network or subscriber equipment).

Mr Etienne emphasized two achievements of his company--the Biarritz test (carried out with SAT) and the Lille experimental network--to demonstrate that optical fiber networks are not an "industrial utopia" but indeed a reality. Touching on exportation, Mr Etienne noted that "France's delay in cable networks now works in our favor, since it allows us to exploit new technologies before the United States. But we must act fast to conserve this advantage." Lastly, Mr Le Menestrel attempted to provide a better

understanding of the industrial stakes in cable networks by observing that "behind the builders lies a whole industry of cables, optical fibers, semiconductors, and network center stations." He also challenged the false-debates opposing cables, satellites, and microwave relays, as well as as those concerning the installation costs of optical networks ("consistent with the proposals and not very divergent from final objectives").

While the Second Convention of Cabled Cities did not really advance the debate at a technical level, it did harden the government's determination to complete the cable network program according to initial criteria; the publication of application decrees on teledistribution is only a matter of weeks.

11,023

CSO: 5500/2660

# DIODE LASER FOR LONG DISTANCE OPTICAL TELECOMMUNICATIONS

Paris ELECTRONIQUE ACTUALITES in French 9 Mar 84 pp 1, 17

[Article by F. Grosvalet]

[Text] For the first time in France, single frequency laser diodes, radiating at 1.5 micron in steady state operation at ambient temperature, have been fabricated jointly by CNET's (National Center for Telecommunication Studies) Bagneux laboratory and by Thomson's Central Research Laboratory (LCR).

These distributed-resonator (diffraction network integrated in the structure), InP-GaInAsP diodes were made by CNET on epitaxial wafers supplied by LCR. The latter were produced by vapor phase epitaxy, using a method known as organometallic. It is the first time in the world that this technique, which is particularly well adapted to industrial manufacturing, is used to fabricate single frequency, network diodes radiating at 1.5 micron. The Japanese have already built such circuits with a lower threshold current, but they used liquid phase epitaxy.

The lasers produced by CNET and LCR are ribbon structure, Schottky type InP-GaInAsP heterojunction lasers, 14 micron wide (gain-controlled structure patented by CNET and used in the 1.3 micron lasers industrially produced by CIT-Alcatel). They are characterized by a threshold current of 230 mA (because of this structure) and a power of 3 mW.

This type of component is a key element in long distance, high speed optical telecommunication systems, because while optical fibers have an absorption minimum (0.2 dB/km) at 1.55 micron, their chromatic dispersion is not zero at the same wavelength, and in fact is higher than at 1.3 micron. Monochromatic laser diodes must therefore be used so as to exploit all the possibilities for low dispersion, without which the different spectrum components propagate at different speeds, thus limiting the connection bandpass in inverse proportion to its length. The 1.55 micron laser diodes produced in France until now (whether by CNET, LCR, or the Marcoussis Laboratories) were not sufficiently monochromatic. Several solutions are possible for improving this monochromaticity: coupling two laser cavities (which is done by Bell Labs), or integrating a diffraction network in the cavity. CNET and LCR selected the latter.

## Diffraction Network Integrated in the Structure

Operation at a single wavelength was thus obtained thanks to the selective action of a diffraction network monolithically integrated in the structure--(the distributed resonator)--which combines with that of the Fabry-Perot interferometer formed by the cleaved faces of the semiconductor chip, forming a local resonator. This structure was achieved at LCR by means of two-cycle organometallic vapor phase epitaxy. An InP buffer layer is grown on the substrate during the first cycle, followed by the active layer (0.2 micron thick) which radiates at 1.5 microns, and by a layer of GaInAsP which radiates at 1.3 microns. The wafer is then removed from the epitaxy reactor and the diffraction network is etched near the 1.3 micron layer by a holographic method (intermittently exposed resin). During the second epitaxy cycle, the structure is completed by growing the p-type InP layer and the contact layer.

Processed wafers were supplied to CNET, which fabricated the lasers and tested them. Measurements were taken both with very short (250 ps) pulse modulation, and with sinusoidal modulation (1 GHz), to verify the single frequency operation of these lasers.

At LCR, research will now be oriented toward improving wafer reproducibility with a view to future industrialization, even if it is maybe a little early to mention the latter.

CNET will now use LCR wafers to attempt the fabrication of lasers with an embedded, narrow ribbon structure. Such a structure would make it possible to use conventional 1.3 micron or 1.55 micron laser diodes to obtain threshold currents lower than 15 mA; this should in turn make it possible to fabricate single frequency, 1.55 micron network lasers with a threshold current of the order of 50mA.

11,023

CSO: 5500/2661

FRANCE

BRIEFS

CIT-ALCATEL PENETRATES SPANISH MARKET--CIT-Alcatel has decided to open an office in Spain before the end of the month. This decision confirms the French manufacturer's interest in Spain. For several months, CIT-Alcatel has indeed been negotiating with Telefonica, the Spanish company which is planning to convert to electronic switching. For the 1983-1986 four-year plan which has just been approved by the Spanish government, it has an investment budget estimated at 762 billion pesetas (about 5 billion dollars). Of this sum, Telefonica intends to devote 5 billion pesetas to network expansion, and 2.5 billion to modernize its installations. Facing CIT-Alcatel's ambitions, which will now have a good observatory in Madrid, is its major competitor, SESA, an ITT subsidiary established in Spain for a long time. [Text] [Paris ELECTRONIQUE ACTUALITES in French 2 Mar 84 p 10] 11,023

CSO: 5500/2660

COUNTRY MAY JOIN ECS 1 SATELLITE TV NETWORK

Reykjavik MORGUNBLADID in Icelandic 19 Apr 84 p 48

[Article: "Possible to Receive 12 Channels by the Beginning of the Year"]

[Text] The Hljombaer Company on Hverfisgata is preparing to install a receiving disc to receive transmissions from the earth satellite ECS 1 (European Communications Satellite 1), a satellite recently orbited by the European Common Market. The satellite now relays television programs on four channels, a British, a German, a French and a Norwegian, made so that Icelanders can receive them. However, plans are that the satellite will relay television programs on 12 channels before the end of the year.

According to Kristjan Zophaniasson of Hljombaer, it is hoped that the receiving disc will be completed within a month's time. Hljombaer has once before established a receiving disc to receive television programs by satellite and it was possible via the disc to receive Soviet television programming from a satellite which relayed programs to Cuba. The Soviet ambassador to Iceland invested in the purchase of the receiving disc. The receiving disc whose installation is now being prepared is from the Swedish Luxor Company and is only 3.6 meters across thanks to new technology. The disc would have had to have been 5 meters across if it were of the older type.

The establishment of the receiving disc will make possible live telecasts from the athletic events expected this summer such as the European national team soccer competition in France and the Olympic Games in Los Angeles.

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CSO: 5500/2667

ERICSSON EXPANDING EFFORT IN WEST GERMANY

Stockholm SVENSKA DAGBLADET in Swedish 13 Apr 84 p 4

/Article by Tomas Lundin: "Ericsson Exhibits New System"/

/Text/ Hannover (SvD)--The comet on the fast-growing West German computer and information market is Ericsson Information System. After only a few days at the Hannover Fair, Deputy Director Magnus Falk was prepared to increase his ambitious prognoses again.

Previously, the official growth estimate for 1984 was given as 66 percent, i.e., a calculated annual sales of 290 million German marks or 853 million kronor.

It is now expected this might be revised upwards by 10 to 15 percent. The problem is that incoming orders are increasing considerably faster than the supply capacities.

Eircsson, which last year purchased the West German computer manufacturer David Computer, is now looking for additional acquisitions.

One hopes in this way to be able to increase sales this year to DM 350 million or 1.03 billion kronor. In the coming 3 years, Magnus Falk is looking for an annual doubling of sales.

With the purchase of David Computer, Eircsson Information Systems also took over the company's advanced and now further developed computers, particularly their excellent distribution channels.

Starting 1 April, Ericsson will have a sales network consisting of 29 of West Germany's larger system houses with regional exclusive licenses for Ericsson's products.

Things have up to now been rather quiet on the West German personal computer market, but now a record boom is expected.

Marketing director Udo Philipp thus believes that the sale of Ericsson's personal computer, Step One, will expand vigorously and become one of the company's most dynamic products. As many as 700 units have been sold since the month of November.



In the field of communications, on the other hand, Ericsson continues to have great difficulties. While the market share for screen terminals is 15 percent--i.e., second after IBM--and for certain computers, 20 to 25 percent, the Swedes have no more than 1 percent of the market for telephone exchanges.

"This is our most important strategic objective for the future," says Magnus Falk.

At the Hannover Fair, Ericsson is presenting for the first time its digital telephone and communication system Ericom Direct, which is expected to obtain the West German telecommunication system's approval this fall.

With this system, said to be wholly unique, Ericsson hopes to be able to make a real breakthrough on the dynamic West German market, dominated thus far by Siemens.

9992

CSO: 5550/2664

UNITED KINGDOM

BRIEFS

UK SATELLITE ROLE--British companies have a key role in the two rival consortia bidding to provide second-generation satellites for Inmarsat, the 40-nation London-based organisation providing international communications for the shipping and offshore energy industries. One consortium is led by British Aerospace dynamics group and Hughes Aircraft Company. The other is headed by Marconi Space Systems, Ford Aerospace and Communications of America and Aerospatiale, of France. Contracts are not expected to be awarded before next year. There are now 2,350 ships using Inmarsat satellites for telephone, telex and data-Communications via 10 land-based stations in places including Britain, Japan, Kuwait, Singapore and Brazil. [Text]  
[London THE DAILY TELEGRAPH in English 16 Apr 84 p 4]

CSO: 5500/7528

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